

Application No. 10/081,133
Reply to Office Action dated May 3, 2005

Remarks

Applicant thanks the Examiner for noting in the Office Action of November 4, 2004 and the interview of March 9, 2005 that "claims 24-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims." In view of the foregoing, new independent claim 27 has been added which incorporates now canceled claims 24 and 26 together. Claim 25 has been amended to depend from new independent claim 27. Hence in view of the Examiner's statement, independent claim 27 and dependent claim 25 now should be allowable. Pursuant to a telephone conversation with the examiner who indicated an amendment consistent with the restriction requirement would be acceptable to her, new claims 48-60 have been added. With this amendment, claims 12, 20-21 and 30-43 have been canceled. Claims 25, 27-33 and 48-60 are pending.

The Problems Solved By The Applicant

As discussed in the specification, metal foils used in multilayered insulation products which include a porous insulation layer, such as a foamed insulation or fiber insulation, would rip or tear the foil when the foil is pulled into the machine to apply to the porous insulation to it. For example, the metal foil would tear when applied to urethane which when polymerized would cause swelling polyurethane to foam and spread over machinery and plant. To solve this problem a glutinous plastic is applied to the metal foil and other layers associated with the foil. The glutinous plastic when heated will crystallize and give the foil strength to be associated with the insulation. In the case of polyurethane insulation, the heat of the exothermal polymerization of urethane is used to at least in part effect the crystallization of the glutinous plastic. In a particularly important aspect, the crystallizable plastic is a polyamide.

The references cited by the examiner do not suggest solving the above described problem. Indeed, they do not even recognize the problem. Hence, the insulation material of the invention is not described or suggested by the references either alone or in combination.

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Rejection under 35 U.S.C. 102(e) over U.S. Patent No. 6,428,882 to Peiffer et al.

Peiffer et al. do not suggest the problem solved by the applicant, nor do they suggest anything which resembles applicant's solution to the problem of foil tearing while being associated insulation – especially a polyurethane insulation. In connection with their invention, Peiffer et al. do not describe an insulation layer, the use of a polyamide (or even any polyamide), and does not describe the use of a glutinous polymer with the crystallization of the glutinous polymer to make a multilayered insulation material where one of the layers is a polyurethane insulation.

Peiffer et al. merely describe a multi-layer film material which includes a cover layer on a base layer with a metallic or ceramic layer on the cover layer. There is no insulation layer with this product. The cover layer is at least 40 weight percent of ethylene 2,6 naphthalate units and optionally 0 to 60 weight percent terephthalate units. The base layer is at least 90 weight percent of a thermoplastic polyester (see column 5, ln 33-36), such as polyethylene terephthalate. The foil can be aluminum. While Peiffer et al. talk about their product being used to improve insulation in refrigerators, they do not in anyway suggest a polyurethane product being used in conjunction with a crystallizable plastic and/or a polyamide. In short, applicant respectfully submits that Peiffer et al. is not relevant to the claims herein.

Rejection under 35 U.S.C. 102(b) over U.S. Patent No. 4,424,254 to Hedrick et al.

Hedrick et al. merely describe a metal layer laminated on each side of a thermoplastic core layer. Hedrick does not suggest a polyurethane insulation together with a crystallizable layer (crystallized from a glutinous form after application to a metal layer). Hedrick et al. does not address or solve the problem addressed and solved by applicant.

True, Hedrick et al. do describe a polyamide between two metal layers, but Hedrick et al. do not use, or even hint at using the polyamide in a way where the polyamide is glutinous then crystallized to permit the application of a metal layer to a polyurethane insulation or a fiber insulation.

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Conclusion

In view of the above amendments and remarks, applicant respectfully requests allowance of the pending claims. The Commissioner is hereby authorized to charge any additional fees which may be required in this application to Deposit Account No. 06-1135.

Respectfully submitted,

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